



University of Glasgow  
DEPARTMENT OF

**AEROSPACE  
ENGINEERING**



**Development of A European Aircraft Design  
Consortium In Higher Education.**

**TEMPUS JOINT EUROPEAN PROJECT 1179-90/1  
Interim Progress Report  
for Year 1990-1991.**

**by  
R.Fletcher, L.Smrcek, F.N.Coton**

**Departmental Report No. 9222**

**May 1992**

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# TEMPUS

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JOINT EUROPEAN PROJECT 1179-90/1

Interim Progress Report  
for Year 1990-1991.

by

R.Fletcher, Tempus Administrator, Dept. of Aerospace Engineering,  
L.Smrcek, Tempus Coordinator, Dept. of Aerospace Engineering,  
F.Coton, Tempus Coordinator, Dept. of Aerospace Engineering.  
Glasgow University.

## Summary

Most of the effort to date has gone into establishing the executive structure which will direct and monitor the educational and technical programmes and the program of staff/student assignments between Czechoslovakia and the participating EEC Institutions. The activities are described in 8 main sections.

## Key

In what follows, "The University" is Glasgow University, "The Department" is The Department of Aeronautical and Aerospace Engineering, Glasgow University, "CVUT" is the Technical University, Prague and "JEP" is Joint European Project.

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## ACTIVITIES REPORT DECEMBER 1990 - APRIL 1991.

### 1. Administration.

**Feb.'91** Mr. Richard Fletcher was employed under the terms of the JEP contract on a part-time basis as Tempus Project Administrator. A TEMPUS office was established in the Department of Aerospace Engineering of the University.

**Feb./Mar. '91** Computer based budget control using spreadsheets was instigated. This should help to keep close control of expenditure, to make budget forecasts, and to facilitate audits which the Tempus Office in Brussels might from time to time require to make. Communication with other University Offices such as the Finance Office, the Accommodation Office, the EEC Office and the Office for International Programmes was established

**Feb.'91** CVUT engaged Ing.L. Smrcek as part-time coordinator with special responsibility for design to manage JEP activities within Czechoslovakia, liaising between Czechoslovakian aircraft industry and CVUT as required. Ing. Smrcek is a highly experienced Chief Aircraft Designer, recently retired from the LET Aircraft Company, who has invaluable connections with aircraft manufacturing in Czechoslovakia.



**Mar. '91** Prof. Ing V. Broz's Department at CVUT was equipped with a fax machine and the TEMPUS grantholders and administrators in the University were permitted full international dialling facilities on GU switchboard. These measures should usefully speed up communication between the participating Institutions.

**Apr. '91** Formalities for opening a bank account with the Zivnostenka Bank in London are now proceeding, after lengthy negotiations with the University Finance Office

## **2. Information and Publicity.**

**Feb. '91** The objectives of the TEMPUS JEP and the programme assignments in Czechoslovakia were made known to University aerospace engineering students. The response has been gratifying. All the budgeted Glasgow-Czechoslovakia assignments for 1990/91 have been taken up. (see Section 4 below)

**Mar. '91.** The TEMPUS award to the University, and the objectives of the TEMPUS JEP were publicised in the March edition of the University Newsletter (Appendix 1). This extract is now routinely included in all outgoing Departmental correspondence relevant to the JEP. A Technical Information Bank for visiting Czechoslovakian staff and students was started. A more general information database in computer form is under development. Using this, Glasgow students intending to visit Czechoslovakia can familiarise themselves with the scope and objectives of the TEMPUS initiative, and can access a cumulative pool of information built up from the experience of students who have visited Czechoslovakia. This Information Bank will be progressively extended to include general information on Czechoslovakia, as well as specific information about the participating Institutions in Prague, Brno etc.

**Apr. '91.** Three of the Department's internal bulletin boards have been reserved for EEC and TEMPUS news, announcements and progress summaries.

## **3. Mobility. Action 1**

**Dec. '90.** Dipl. Ing Ladislav Smrcek had preliminary meetings in Prague, hosted by Professor V. Broz of CVUT to establish the general guidelines for the JEP.

**Feb. '91.** Dipl. Ing. Smrcek visited CVUT Prague to discuss student study visits between EEC Institutions and Czechoslovakia. During this visit Ing. Smrcek also visited VZLU, LET and Aerotechnik in Czechoslovakia, and had discussions with VUT (Brno) and with sport aircraft manufacturer Moravan, who will participate in the JEP in subsequent years (See below Section 7)

**Mar. '91.** Representatives of CVUT were invited to attend an ERASMUS (SPIN) meeting at Braunschweig, where they met other TEMPUS partners to discuss JEP activities to September 1991. At this meeting, JEP boards were established as indicated elsewhere (ref. 1). A most valuable outcome of these various discussions was that Czechoslovakian aero-industrial concerns would accommodate some of the student study visits scheduled under current Action 2 Mobility funding during 1991.

**Apr. '91.** Dr. Frank Coton visited ENSAE in Toulouse on the Department's ERASMUS programme. Discussions relevant to the JEP with M. Y. Nicolas and M. Lepac, Director of Studies at ENSAE, centred on placement of Czechoslovakian students in ENSAE in 1991 and subsequent years, and on the possibility of a Czechoslovakian student taking a French post-graduate *Mastere* diploma.

#### **4. Mobility. Action 2**

**Mar/Apr. '91.** 4 student assignments from the University to Czechoslovakia were arranged. The students, all in their third year of study and intending to complete the Honours B.Eng. in Aerospace Engineering in the Department in session 1991/92, will travel to Czechoslovakia at the end of June 1991 for 3 months. Prof.V.Broz of CVUT and the host Companies in Czechoslovakia have been able to arrange free accommodation, thus allowing 4 students to travel instead of only the 2 allowed under Action 2 Mobility in Annex 1 to the JEP contract. Before going to Czechoslovakia, the students will attend a short, intensive course in Czech in the Department of Slavonic Languages in Glasgow University.

**Apr. '91.** Reciprocal assignments from Czechoslovakia for seven students to EEC locations were completed. These students will be assigned to Glasgow University, Department of Aerospace Engineering, Zlin Electronics in the UK, Stuttgart, Delft, Toulouse, Turin, and Madrid in September 1991 for 5 months. The student visiting Zlin will carry out a project based in electronic circuit design using CAD/CAM, between June/July and November/December 1991. Other project details were not finalised at the time of writing.

**Apr. '91.** Arrangements were completed for Prof.Ing V.Broz of CVUT and Dipl.Ing. Vitek to visit the UK during May 1991 for 5 weeks teaching assignment and two further Czechoslovakian staff members will visit other Tempus Institutions before the Summer Vacation, 1991.

#### **5. Equipment.**

**- Apr. '91.** Dr. Coton is in discussion with technical representatives of IBM and other equipment suppliers based in Prague. They are advising the grantholders on supplying and paying for EEC (Western) technology in Czechoslovakia. The intention is to establish a dedicated laboratory /aircraft design facility in CVUT, with due acknowledgement to the TEMPUS initiative. This will be equipped with CAD/CAM and design hardware and software. The very recent commercial availability in the UK of "Virtual Reality" flight simulators, attractively priced, has been noted (ref.2) and R.Fletcher is in contact with the UK manufacturers

#### **6. Course enhancement at CVUT**

**- Apr. '91.** CVUT have /submitted their course structure and this is under consideration in the Department. The Department is compiling a reading list for consideration by CVUT.

#### **7. Expansion of Programme**

**Mar/Apr. '91.** Agreement in principle to take part in the JEP in years 2 and 3 was reached with:-

- i) The Technical University of Brno (VUT), Brno, Czechoslovakia.
- ii) The Carolo-Wilhelmina Technical University, Braunschweig, Germany.
- iii) Moravan Aircraft Company, Otrokovice, Czechoslovakia
- iv) Department of Aerospace Engineering, University of Bristol, UK.

and these Institutions have formally signified their willingness to participate, appropriately documented.



The grantholders have also approached Field Aircraft Ltd. (West Midlands, UK) hopefully to secure their participation in 1992.

## **8. Complementary Activities.**

**Mar. '91.** Dipl.Ing Ladislav Smrcek and Mr.Richard Fletcher jointly submitted to the Commissioners of the Community an application for a TEMPUS award under Action 3 (Complementary Activities) to prepare and publish a Multi-Lingual Dictionary of Aeronautical and Aerospace Technology. (Reference No.CME-UK-002-91)

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## **ACTIVITIES PLANNED FOR ACADEMIC YEAR 1990/91**

The programme of student assignments under Mobility 2 for the year 1990/91 is in place. It remains to complete the arrangements for the five more 5 week staff assignments from Czechoslovakia to Delft, Stuttgart, Madrid, Turin, Toulouse, and UK.

Being aware of the value of publicity, the project coordinators and the administrator will contact local newspapers, the BBC in Glasgow, the University Newsletter and periodicals such as "Aerospace" to publicise the TEMPUS initiative once the assignments in the U.K have begun.

In May '91, Dipl. Ing.L.Smrcek and Dr.F.Coton will visit Delft as part of the Department's ERASMUS programme (and budget), to meet Professor Broz of CVUT and the Delft personnel for TEMPUS. This will be a progress/monitoring meeting. A similar meeting will be organised at the Politecnico de Torino, in Italy.

CVUT representatives will be invited by the University to attend to Paris Air Show in June '91 where they will be introduced Western academics and aerospace industrialists with who the coordinators and the Department have well established contacts.

Curriculum review, development and updating is expected to account for most of the remaining Action 1 activity. (See below - PROBLEMS)

During the remainder of the academic year, discussions with equipment suppliers will be finalised and the equipment for CVUT should be ordered, if not in place, by the end of September.

Dipl.Ing.L.Smrcek and Dr.F.Coton intend to present papers to the Aerotech 92 Conference in Birmingham, UK in January 1992, and to the International Workshop on Research into Training and Education in Aeronautics and Space Sciences at Forli, Italy in October 1991, representing both the TEMPUS initiative and the University.

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## **PROBLEMS.**

Problems have been encountered in 2 areas.

i) The progress of the JEP would have benefited from the employment of a full-time Administrator in the University and a full time design coordinator in Czechoslovakia. Continuity would be improved and communication between the coordinators, administrator and participating Institutions would be facilitated. The re-application for 1991/92 funding which accompanies this report is made on the basis of an increase in the number of participating Institutions, with consequent expansion in JEP activity. Hence the need for a full-time administrator and design coordinator will become even more pressing.

ii) The formalities for opening a banking account referred to on page 2 above, seemed unnecessarily protracted, and this made the mechanism for transmitting payments to Czechoslovakian students and staff uncertain. (At the time of writing, this item seems close to resolution, depending on how rapidly Zivnostenska Banka no complete the required formalities.)

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## **References.**

- 1) Communication to M.Oliver Ramsayer, Tempus Office, Brussels, from R.Fletcher, Tempus Administrator, Glasgow, dated 26th. March 1991.
- 2) "An Extra Dimension of Realism", "*New Scientist*", London, April 6th. 1991. page 23.